

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte R. B. GUPTA
and ROBERT G. LEES

Appeal No. 1996-0191¹
Application 08/001,697

ON BRIEF

Before GARRIS, WARREN and WALTZ, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal and Opinion

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner finally rejecting claims 5, 10 through 12, 14 through 19, 33 and 34.² Claims 8, 9, 20 through 32 and 35, which are

¹ We decide concurrently herewith Appeal No. 1997-4365 in application 08/463,726, filed June 6, 1995, which according to appellants is a division of the present application.

² See specification, page 20, and the amendments of March 17, 1994 (Paper No. 5) and of September 2, 1994 (Paper No. 7).

also of record, have been withdrawn from consideration by the examiner under 37 CFR § 1.142(b).^{3,4}

We have carefully considered the record before us, and based thereon, find that we cannot sustain the ground of rejection of claims 33 and 34 under 35 U.S.C. § 112, first paragraph, as the specification as originally filed, does not provide support for the invention as is now claimed (answer, pages 4 and 10-11). We find this rejection for lack of “support” to be based on the written description requirement of § 112, first paragraph. *See generally, Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1560, 19 USPQ2d 1111, 1114 (Fed. Cir. 1991). In order to make out a *prima facie* case of failure of the *claims* to comply with this section of the statute, the examiner must set forth “evidence or reasons why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims.” *In re Alton*, 76 F.3d 1168, 1175, 37 USPQ2d 1578, 1583-84 (Fed. Cir. 1996). Here, the examiner contends that the unlimited range in the phrase “the effective amount of cure catalyst comprises at least about 0.01% based on the weight of the curable composition” appearing in each of these claims “encompasses levels outside of the proportions” in the specific ranges set forth in the second full paragraph on page 11 of the specification (answer, page 4). Appellants submit that one of ordinary skill in this art would understand from the disclosure that “the amount of cure catalyst to be used is an amount ‘effective to accelerate cure at the temperature employed’” coupled with the

³ See answer, page 2, with respect to claim 8.

⁴ The file of this application has been reconstructed with copies of Office communications submitted by appellants. See the communication to appellants of October 8, 1996. Thus, appellants submitted a copy of the examiner’s answer, mailed July 28, 1995 (Paper No. 12). On August 29, 1999, appellants submitted a corrected brief (Paper No. 24) pursuant to the examiner’s communication of August 3, 1999 (Paper No. 23). The examiner, in his communication of August 31, 1999, designated Paper No. 25, acknowledged the corrected brief. This file also contains an examiner’s answer designated Paper No. 26 which was not mentioned in the examiner’s communication of August 31, 1999 (Paper No. 25). This answer appears to be a modification of the original examiner’s answer (Paper No. 12) as it acknowledges the new information submitted in appellants’ corrected brief and restates certain other information with respect to the information in appellants’ brief required in 37 CFR § 1.192 (c) (1) through (7) (1997). Since there is no indication that this supplemental answer was mailed to appellants, a copy thereof was unofficially FAXed to them by the Board on March 7, 2000. In a following telephonic communication on March 8, 2000, appellants acknowledged that the substantive content of the two examiner’s answers with respect to the grounds of rejection is the same and thus our review of this appeal is based on the original examiner’s answer (Paper No. 12).

exemplified specific ranges that “any effective amount of cure catalyst of ‘at least 0.01%’ could be employed in the present invention” (brief, page 13). The examiner responds that “there is no substantiation for an amount of catalyst in excess of the 2.0%” and that one of ordinary skill in art “could not ascertain the maximum level . . . because the broad description of ‘amounts effective to accelerate cure’ is contingent on the cure temperature which is not defined” (answer, pages 10-11). We must agree with appellants because we find that one of ordinary skill in this art would in fact recognize that the disclosure of an amount of cure catalyst “effective to accelerate cure at the temperature employed” coupled with the range specified in the specification as an exemplary embodiment establishes that the amount of catalyst can be “at least about 0.01%” and without upper limit, thus describing the invention defined by the claims. *See In re Wertheim*, 541 F.2d 257, 265, 191 USPQ 90, 99 (CCPA 1976). Indeed, whether one of ordinary skill in this art could “ascertain the maximum level” of cure catalyst is an issue arising under the enablement requirement of § 112, first paragraph, and has no bearing on whether that person would recognize in the disclosure a description of the invention defined by the claims. *See, e.g., Alton*, 76 F.3d at 1175, 37 USPQ2d at 1581.

We will also not sustain the ground of rejection of claims 5, 10 through 12, 14 through 19, 33 and 34 under 35 U.S.C. § 103 over Macholdt et al. (Macholdt) and Iwasawa et al. (Iwasawa) and Wooten et al. (Wooten) in view of Japanese Patent No. 58-146582 (Kajiura) and Akkapeddi et al. (Akkapeddi).⁵ Contrary to appellants’ contention (brief, page 9), Kajiura specifically discloses tris-pyrrolidonyl triazine⁶ and we find that one of ordinary skill in this art would have reasonably inferred that this compound would homo-polymerize through a ring opening reaction involving the pyrrolidonyl

⁵ The references are listed at page 3 of the answer. Wooten is relied on by the examiner even though not recited in the statement of the rejection in the answer (page 4) in view of the inclusion of this reference in the discussion of the ground of rejection (id., pages 4-6 and 7-10). We refer in our opinion to the translation of Kajiura prepared for the PTO by FLS, Inc. in November, 1993. We note that a translation of this reference prepared by Polygot Language Service is also in the file and apparently was submitted by appellants.

⁶ Kajiura names this compound “2,4,6-*tris*(N-(azacyclopentane-2-onyl))-1,3,5-triazine” (page 5, line 8).

moiety to form a “thermosetting resin with excellent heat resistance” as well as function via the ring opening reaction as a “hardener” or curing agent “for all-purpose resins such as epoxy resins and phenolic resins” (pages 7-8).⁷ We cannot agree with the examiner that this disclosure of Kajiura when coupled with the disclosure at page 3 with respect to “melamine” would have reasonably suggested to one of ordinary skill in this art that resins hardened with melamine *per se* would “exhibit superior heat resistance” over resins hardened with melamine *resins* (answer, pages 6 and 8; see also brief, page 11).

We also cannot agree with appellants that Akkapeddi would not have reasonably suggested to one of ordinary skill in this art that tris-pyrrolidonyl triazine has crosslinking capability and that only “a linear block copolymer” would be obtained (brief, page 10). Indeed, Akkapeddi discloses that the preparation of polyether prepolymers with “2-dimethyl-amino-4,6-bis(á-pyrrolidonyl)-1,3,5-triazine (BpT)” results in “end capped product with statistical distribution of chain extended by-products” (pages 314 and 315). We find that one of ordinary skill in this art would have reasonably inferred from this disclosure that chain extension would occur even where the prepolymers are end-capped, and further that where “2,4,6-tris- (á-pyrrolidonyl)-1,3,5-triazine (TpT)” is employed, at least some of the chain extension product would reasonable involve all three pyrrolidonyl moieties, thus resulting in a *branched* prepolymer which is reactive with caprolactam in a ring opening reaction (pages 315 and 318-319).

Accordingly, we find that the combined teachings of Kajiura and Akkapeddi would have reasonably suggested to one of ordinary skill in this art that tris-pyrrolidonyl triazine can be used as a cross linking or hardening agent for epoxy and phenolic resins as well as in reactions with ether and amido containing prepolymers and compounds. The examiner relies on these teaching along with the

⁷ In evaluating the teachings of the applied references, we must, of course, consider the specific teachings thereof and the inferences one of ordinary skill in this art would have reasonably been expected to draw therefrom. *In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968). In evaluating the relevance of the various teachings of these references, we must presume skill on the part of those of ordinary skill in this art. *See In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

alleged teachings in Macholdt “that melamine resins are suitable curing agents for the epoxy resins reported in [Kajiura] or the hydroxyl-functional resins of [Iwasawa] and [Wooten],” in contending that one of ordinary skill in this art would have found it “obvious to employ the tris-pyrrolidonyl triazine hardener of [Kajiura] as the curing agent for the hydroxyl-functional resins of [Macholdt], [Iwasawa] and [Wooten] in order to attain superior heat resistance over melamine resins” (answer, page 6). Appellants submit that there is no suggestion in the combined teachings of the applied references to “replace the melamine crosslinkers” of Macholdt, Iwasawa and Wooten with tris-pyrrolidonyl triazine disclosed in Kajiura (brief, pages 10-11). In view of the evidence in the Macholdt, Iwasawa and Wooten, we find ourselves in agreement with appellants.

Appellants acknowledge that the “six primary references disclose . . . the known fact that hydroxyfunctional acrylic and polyester powder coating resins can be crosslinked with melamine resins” (brief, page 9).⁸ Indeed, we find that Iwasawa discloses that thermosetting powder coating compositions “containing an acrylic resin and a melamine derivative, namely ‘melamine-acrylic resin,’” wherein the “melamine derivative” is “hexakisloweralkoxymethyl-melamine obtained by etherifying hexakismethylolated melamine with lower alcohol,” were known and teaches powder coating compositions comprising acrylic resins and “hexamethylolmelamine” derivatives which are particular etherified products (e.g., col. 1, lines 8-14, and col. 2, lines 17-39). We find that Wooten discloses that alkoxymelamine and hexamethoxymethyl melamines are among the melamines that are useful for thermosetting resins containing functional hydroxyl groups such as polyester resins in thermosetting powder coating compositions (e.g., col. 1, lines 14-16, and col. 2, lines 53-65). We find, as did appellants (brief, page 10), that “melamine resin” is disclosed in Macholdt as a “curing component for hydroxyl-containing polyester resins” in powder coating compositions and not, as alleged by the examiner (answer, pages 4 and 6), for epoxy resins (col. 1, lines 55-66).

Based on this evidence, we find that the combined teachings of Iwasawa, Wooten and Macholdt would have suggested to one of ordinary skill in this art that, in addition to melamine *resins*,

⁸ The ground of rejection as stated in the final rejection (Paper No. 9) included Labana et al., Passmore et al. and Kanda et al. which the examiner withdrew in the answer (page 4).

etherified melamine derivatives can be used to cure hydroxyl-functional acrylic and polyester powder coating resins, none of which is “melamine” *per se* as disclosed in Kajiura or contains a pyrrolidonyl moiety as does tris-pyrrolidonyl triazine which is taught in this reference. Furthermore, contrary to the examiner’s allegation (answer, page 6), we find that Macholdt would not have suggested to one of ordinary skill in this art to use a melamine derivative to cure epoxy resins, whether in powder compositions as in this reference or as “all-purpose resins” as in Kajiura (page 8), and we agree with appellants that Macholdt “does not ‘establish’ the equivalency between the ‘phenol [sic, phenolic] resin’ of [Kajiura] and the hydroxyfunctional resins of the five other primary references” (brief, page 10). Thus, at best, the use of crosslinking agents containing a triazine ring in the powder compositions as disclosed by the combined teachings of Iwasawa, Wooten and Macholdt would have suggested to one of ordinary skill in this art “to try” other triazine ring containing crosslinking agents, including the tris-pyrrolidonyl triazine of Kajiura, which is “not the standard under § 103.” *In re O’Farrell*, 853 F.2d 894, 903-04, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988) (“In [other cases], what was ‘obvious to try’ was to explore a . . . general approach that seemed to be a promising field of experimentation where the prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it. [Citations omitted.]”).

Accordingly, it is manifest that the only direction to appellants’ claimed invention as a whole on the record before us is supplied by appellants’ own specification. *In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991), citing *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988) (“Both the suggestion and the reasonable expectation of success must be founded in the prior art, not in the applicant’s disclosure.”).

The examiner's decision is reversed.

Reversed

BRADLEY R. GARRIS
Administrative Patent Judge

CHARLES F. WARREN
Administrative Patent Judge

THOMAS A. WALTZ
Administrative Patent Judge

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